



# *Common Market for Eastern and Southern Africa*



## **EDICT OF GOVERNMENT**



In order to promote public education and public safety, equal justice for all, a better informed citizenry, the rule of law, world trade and world peace, this legal document is hereby made available on a noncommercial basis, as it is the right of all humans to know and speak the laws that govern them.

COMESA 022 (2004) (English): Standard for  
Canned Mangoes



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**COMESA HARMONISED  
STANDARD**

**COMESA/DHS  
022: 2004**

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**Standard for Canned Mangoes**

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REFERENCE: DHS 022: 2004

## Foreword

The Common Market for Eastern and Southern Africa (COMESA) was established in 1994 as a regional economic grouping consisting of 20 member states after signing the co-operation Treaty. In Chapter 15 of the COMESA Treaty, Member States agreed to co-operate on matters of standardisation and Quality assurance with the aim of facilitating the faster movement of goods and services within the region so as to enhance expansion of intra-COMESA trade and industrial expansion.

Co-operation in standardisation is expected to result into having uniformly harmonised standards. Harmonisation of standards within the region is expected to reduce Technical Barriers to Trade that are normally encountered when goods and services are exchanged between COMESA Member States due to differences in technical requirements. Harmonized COMESA Standards are also expected to result into benefits such as greater industrial productivity and competitiveness, increased agricultural production and food security, a more rational exploitation of natural resources among others.

COMESA Standards are developed by the COMESA experts on standards representing the National Standards Bodies and other stakeholders within the region in accordance with international procedures and practices. Standards are approved by circulating Final Draft Harmonized Standards (FDHS) to all member states for a one Month vote. The assumption is that all contentious issues would have been resolved during the previous stages or that an international or regional standard being adopted has been subjected through a development process consistent with accepted international practice.

COMESA Standards are subject to review, to keep pace with technological advances. Users of the COMESA Harmonized Standards are therefore expected to ensure that they always have the latest version of the standards they are implementing.

This COMESA standard is technically identical to the Codex Standard *CODEX STAN 159-1987*.

<p>A COMESA Harmonized Standard does not purport to include all necessary provisions of a contract. Users are responsible for its correct application.</p>
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**CODEX STANDARD FOR CANNED MANGOES****CODEX STAN 159-1987****1. DESCRIPTION****1.1 Product Definition**

Canned mango is the product: (a) prepared from stemmed, peeled, fresh, sound, clean and mature fruit of commercial varieties conforming to the characteristics of the fruits of *Mangifera indica* L.; (b) which may or may not be packed with a suitable liquid packing medium, nutritive sweeteners and other seasoning or flavouring ingredients appropriate to the product; and (c) processed by heat, in an appropriate manner, before or after being sealed in a container, in order to preserve its essential composition and quality factors.

**1.2 Types of varieties**

Any cultivated variety or type suitable for Canned Mangoes may be used in the preparation.

**1.3 Styles**

The product shall be prepared from peeled fruit for all the following styles:

**1.3.1 Halves** - cut into two approximately equal parts along the stone from stem to apex and the flesh separated from the skin.

**1.3.2 Slices** - Long, slender pieces cut lengthwise or crosswise.

**1.3.3 Pieces** - (or mixed pieces or irregular pieces) - pitted and comprising irregular shapes and sizes.

**1.3.4 Diced** - flesh cut into cube-like parts with a dimension of at least 12 mm on the longest side.

**1.3.5 Other Styles** - Any other presentation of the product shall be permitted provided that the product:

- (a) is sufficiently distinctive from other forms of presentation laid down in this standard;
- (b) meets all relevant requirements of this standard, including requirements relating to limitations on defects, drained weight, and any other requirements in this standard which are applicable to that style in the standard which most closely resembles the style or styles intended to be provided for under this provision.
- (c) is adequately described on the label to avoid confusing or misleading the consumer.

**1.4 Types of Pack**

**1.4.1 Regular pack** - with liquid packing medium.

**1.4.2 Solid pack** - closely packed fruit prepared by packing without a liquid packing medium; a

dry nutritive sweetener may be used.

## 2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

### 2.1 Packing Media

2.1.1 Where a packing medium is used, it may consist of:

2.1.1.1 **Water** - in which water is the sole packing medium;

2.1.1.2 **Fruit Juice**<sup>1</sup> - in which mango juice - or any other compatible fruit juice is the sole packing medium;

2.1.1.3 **Mixed Fruit Juices**<sup>1</sup> - in which two or more compatible fruit juices which may include mango juice, are combined to form the packing medium;

2.1.1.4 **Water and Fruit Juice(s)** - in which water and mango juice, or water and any other single fruit juice or water and two or more fruit juices are combined in any proportion to form the packing medium.

2.1.2 Any of the foregoing packing media may have one or more of the following nutritive sweeteners as defined by the Codex Alimentarius Commission added: sucrose, invert sugar syrup, dextrose, dried glucose syrup, glucose syrup, fructose, fructose syrup, honey.

2.1.3 Dry nutritive sweeteners namely sucrose, invert sugar, dextrose and dried glucose syrup, may be added to solid packs without added liquid but with such slight amounts of steam, water or natural juice as occur in the normal canning of the product.

#### 2.1.4 Classification of packing media when nutritive sweeteners are added

2.1.4.1 When nutritive sweeteners are added to fruit juice(s) the packing media shall be not less than 11° Brix and shall be classified on the basis of the cut-out strength as follows:

Lightly sweetened fruit juice(s) - Not less than 11° Brix  
Heavily sweetened fruit juice(s) - Not less than 15° Brix

2.1.4.2 When nutritive sweeteners are added to water or water and fruit juice(s) or water and nectar the liquid media shall be classified on the basis of the cut-out strength as follows:

Slightly sweetened water	)	- Not less than 10° Brix but less than 14° Brix
Water slightly sweetened	)	
Extra light syrup	)	

Light syrup - Not less than 14° Brix but less than 18° Brix

Heavy syrup - Not less than 18° Brix but less than 24° Brix

Extra heavy syrup - Not less than 24° Brix but not more than 35° Brix

2.1.4.3 When nutritive sweeteners are added to water and fruit juice(s) and the minimum fruit juice content of the packing medium is not less than 40% m/m, the packing medium may be classified as a nectar provided the cut-out strength is not less than 20° Brix.

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<sup>1</sup> Fruit juice may be pulpy, turbid or clear as stated in the Codex Standard for the juice involved.

2.1.4.4 The cut-out strength for any packing medium shall be determined on average, but no container may have a Brix value lower than that of the next category below.

## 2.2 Other Ingredients

Nutritive sweeteners as defined by the Codex Alimentarius Commission.

## 2.3 Quality Criteria

### 2.3.1 Colour

The colour of the product shall be characteristic of the type or variety of mango. Canned mangoes containing special ingredients shall be considered to be of characteristic colour when there is no abnormal discolouration of the respective ingredient used.

### 2.3.2 Flavour

Canned mangoes shall have a flavour and odour characteristic of the variety or type used for canning and shall be free from odours or flavours foreign to the product; and canned mangoes with special ingredients shall have the characteristic flavour of the mangoes and the other substances used.

### 2.3.3 Texture

The mangoes shall be reasonably fleshy and have little fibre. They may be variable in tenderness but shall neither be mushy nor excessively firm in liquid media packs, and shall not be excessively firm in solid packs.

### 2.3.4 Uniformity of Size

2.3.4.1 **Halves** - 90% by count of the units shall be reasonably uniform in size. Where a unit has broken within the container, the combined broken pieces are considered as a single unit.

2.3.4.2 **Other styles** - (There are no requirements for size uniformity).

2.3.5 **Symmetry** - Not more than 20% by count of units shall be sliced in a direction other than parallel to the crease (as stated above) and of these not more than half may have been sliced horizontally.

### 2.3.6 Definition of defects

- (a) **Blemishes** - surface discolouration and spots arising from physical, pathological, insect or other agents that definitely contrast with the overall colour, and which may penetrate into the flesh. Examples include bruises, scab and dark discolouration.
- (b) **Crushed or mashed** - means a unit which has been crushed to the extent that it has lost its normal shape (not due to ripeness) or has been severed into definite parts. Partially disintegrated halves are not counted as broken. All portions that collectively equal the size of a full size unit are considered one unit in applying the allowance herein.
- (c) **Rind** - considered as a defect. It refers to rind adhering to the pulp of the mango



or found loose in the container.

- (d) **Pit (or stone) material** - considered a defect in all styles.
- (e) **Harmless extraneous material** - means any vegetable substance (such as, but not limited to a leaf or portion thereof or a stem or portion thereof) that is harmless but which tends to detract from the appearance of the product.
- (f) **Trim** - considered a defect only in halved and sliced canned mangoes in liquid media packs. The trimming must be excessive and includes serious gouges (whether due to physical trimming or other means) on the surface of the units which definitely detract from the appearance.

### 2.3.7 Allowances for defects

The product shall be reasonably free from defects such as extraneous material, pit (stone) material, rind and spotted slices or chunks. Certain common defects shall not be present in amounts greater than the following limitations:

Defects	Liquid media packs	Solid packs
Blemishes and trim	30% by count	3 units per 500 g
Crushed or mashed	5% by weight	not applicable
Rind	not more than 6 cm <sup>2</sup> aggregate area per 500 g	not more than 12 cm <sup>2</sup> aggregate area per 500 g
Pit or pit material (average)	1/8 stone or equivalent per 500 g	1/8 stone or equivalent per 500 g
Harmless extraneous material	2 pieces per 500 g	3 pieces per 500 g

The weight of the product referred to in the above table is the drained weight (see Codex Alimentarius Volume 13).

### 2.4 Classification of "Defectives"

A container that fails to meet one or more of the applicable quality requirements as set out in sub-sections 2.3.1 to 2.3.7 (except for rinds and pit or pit material, which are based on averages), shall be considered a "defective".

### 2.5 Lot Acceptance

A lot shall be considered as meeting the applicable quality requirements referred to in sub-section 2.4 when:

- (a) for those requirements which are not based on averages, the number of "defectives" as defined in sub-section 2.4 does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the Joint FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (1969) (CAC/RM 42-1969) (see Codex Alimentarius Volume 13) as amended, and

- (b) the requirements which are based on sample average are complied with.

## 2.6 Organoleptic Characteristics

The product shall have the colour, odour and flavour characteristics corresponding to the varieties or types of mango used in the preparation of the product.

## 3. FOOD ADDITIVES

3.1	Colour	Maximum level in the finished product
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	<i>beta</i> -carotene	100 mg/kg
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### 3.2 Acidifying agent

	Citric acid	Limited by GMP
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### 3.3 Antioxidant

	Ascorbic acid	200 mg/kg
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### 3.4 Firming Agents

3.4.1	Calcium chloride	350 mg/kg, calculated as Ca in the finished product
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3.4.2	Pectins	Limited by GMP
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## 4. CONTAMINANTS

	Lead (Pb)	1 mg/kg
	Tin (Sn)	250 mg/kg calculated as Sn

## 5. HYGIENE

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2 (1985) Codex Alimentarius Volume 1), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

## 6. WEIGHTS AND MEASURES

### 6.1 Fill of Container

#### 6.1.1 Minimum Fill

The container shall be well filled with mangoes and the product (including packing medium) shall occupy not less than 90% of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20°C which the sealed container will hold when completely filled.

#### 6.1.2 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90% container capacity) of sub-section 6.1.1 shall be considered a "defective".

#### 6.1.3 Lot Acceptance

A lot will be considered as meeting the requirements of sub-section 6.1.1 when the number of "defectives" as defined in sub-section 6.1.2 does not exceed the acceptance number (c) of the appropriate Sampling Plans (AQL-6.5) in the Joint FAO/WHO Codex Alimentarius Sampling Plans for Pre-packaged Foods (1969) (CAC/RM 42-1969), (see Codex Alimentarius Volume 13) as amended.

### 6.2 Minimum Drained Weight

6.2.1 The drained weight of the product shall be not less than 55% of the distilled water at 20°C which the sealed container will hold when completely filled.

6.2.2 The requirements for minimum drained weight shall be deemed to be complied with when the average drained weight of all containers examined is not less than the minimum required, provided that there is no unreasonable shortage in individual containers.

## 7. LABELLING

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1-1991) Codex Alimentarius Volume 1)<sup>1</sup> the following specific provisions apply:

### 7.1 The Name of the Food

7.1.1 The name of the food to be declared on the label shall be "Mangoes".

7.1.2 The style, as appropriate, shall be declared as part of the name or in close proximity to the name:

"Halves", "Slices", "Diced", "Pieces" or "Mixed Pieces" or "Irregular Pieces".

If the product is produced in accordance with the other styles provision (sub-section 1.3.5), the label shall contain in close proximity to the name of the product such additional words or phrases

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<sup>1</sup> Hereafter referred to as the "General Standard".

that will avoid misleading or confusing the consumer.

7.1.3 The packing medium shall be declared as part of the name, or in close proximity to the name, as appropriate.

7.1.3.1 When the packing medium is composed of water, the packing medium shall be declared as:

"In water" or "Packed in water".

7.1.3.2 When the packing medium is composed of a single fruit juice, the packing medium shall be declared as:

"In juice" or "In Mango juice" where mango juice has been used; or  
"In (name of fruit) juice" for all other fruit juices.

7.1.3.3 When the packing medium is composed of two or more fruit juices, which may include mango juice, it shall be declared as:

"In (name of fruits) juice"; or  
"In fruit juices"; or  
"In mixed fruit juices".

7.1.3.4 When nutritive sweeteners are added to mango juice, the packing medium shall be declared as:

"Lightly sweetened juice"; or  
"Lightly sweetened mango juice"; or  
"Heavily sweetened juice"; or  
"Heavily sweetened mango juice"

as may be appropriate.

7.1.3.5 When nutritive sweeteners are added to a single fruit juice (not including mango juice) or mixtures of two or more fruit juices (which may include mango juice), the packing medium shall be declared as:

"Lightly sweetened (name of fruit) juice"; or  
"Lightly sweetened (name of fruits) juices"; or  
"Lightly sweetened fruit juices"; or  
"Lightly sweetened mixed fruit juices"

as may be appropriate, or the same for

"Heavily sweetened" juice(s).

7.1.3.6 When nutritive sweeteners are added to water, or water and a single fruit juice (including mango juice) or water and two or more fruit juices, the packing medium shall be declared as:

"Slightly sweetened water"  
"Water slightly sweetened"  
"Extra light syrup"  
"Light syrup"  
"Heavy syrup"  
"Extra heavy syrup".

7.1.3.7 When nutritive sweeteners, water and fruit juice(s) are combined to form a nectar, the packing medium shall be declared as:

"In nectar" or "In mango nectar"

where the juice component is solely mango, or

"In (name of fruit) nectar"

"In (name of fruits) nectar"

"In fruit nectars" or

"In mixed fruit nectars"

for all other cases as may be appropriate.

7.1.3.8 When the packing medium contains water and mango juice or water and one or more fruit juice(s), the packing medium shall be designated to indicate the preponderance of water or such fruit juice as may be the case, for example:

"Mango juice and water"

"Water and (mango) juice"

"(name of fruit(s) juice(s)) and water"; or

"Water and (name of fruit(s) juice(s))".

7.1.3.9 The fruit juice component of any packing medium shall not be declared in the name of the food if it comprises less than 10% m/m of the total packing medium but it shall be declared in the list of ingredients.

7.1.3.10 When the name of the fruits in a mixed fruit juice or mixed fruit nectar is listed individually in the packing medium, they shall be declared in descending order of proportion.

7.1.3.11 When the packing medium contains no added sweetening agents, the term "no added sugar" or other words of similar import may be used in association with, or in close proximity to the name of the food.

## **7.2 Instructions for Use**

In accordance with the General Standard.

## **7.3 Additional Mandatory Requirements**

### **7.3.1 Quantative Labelling of Ingredients**

In accordance with the General Standard.

### **7.3.2 Irradiated Foods**

In accordance with the General Standard.

## **7.4 Exemptions from Mandatory Labelling Requirements**

In accordance with the General Standard.

## **7.5 Labelling of Non-Retail Containers**

In addition to the requirements of the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1-1991) Codex Alimentarius Volume 1) the following specific provision applies:

7.5.1 Information on labelling as specified above shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer or packer shall appear on the container.

7.5.2 Lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

7.5.3 Outer containers holding prepackaged foods in small units (see the General Standard) shall be fully labelled.

## **8. METHODS OF ANALYSIS AND SAMPLING**

See Codex Alimentarius Volume 13.